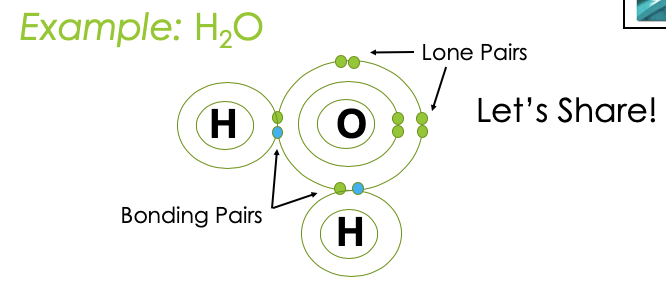
Sc9 Chem Notes- Spindlove **COVALENT COMPOUNDS** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Covalent compounds are made up of two **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
* Covalent compounds \_\_\_\_\_\_\_\_\_\_\_\_ electrons to form molecules. *Example*: \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Naming Covalent Compounds**

* **Binary covalent compounds** – *covalent compounds that contain only \_\_\_\_\_\_ elements* — are named using a procedure *similar* to that used for simple ionic compounds, but use a \_\_\_\_\_\_\_\_\_ method as well.
  + Formulas show the **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** of atoms of each element in a molecule (e.g. H2O2)
    - ***NOT a ratio like ionic!***
  + **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are used to show this

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| --- | --- | --- |
| **Step 1:**   * Place the elements in their proper \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   + *The first element farthest to the* ***left*** *in the periodic table is usually named first.*   + *If both elements are in the same group, the element closer to the bottom of the column is named* | **Step 2:**   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ each element in the compound the same way we do with ionic compounds. * The 1st element name is unchanged * The 2nd element name has suffix “ide” | **Step 3:**   * Identify the \_\_\_\_\_\_\_\_\_ of each type of atom present. * Add the corresponding \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to each element’s name to indicate the number of atoms.   *Exceptions to rule:*   * Do *not* add a prefix if the first element has only \_\_\_\_\_\_\_\_ atom * Shorten mono- to mon- if it is placed before \_\_\_\_\_\_\_\_\_\_\_\_ |

**Prefixes**:

|  |  |  |
| --- | --- | --- |
| 1 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  2 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  3 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  4- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  5 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 6 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  7 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  8 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  9 - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  10 - \_\_\_\_\_\_\_\_\_\_\_\_\_ | *Examples*:   1. CO2 : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. CO\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. P4S10 : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. N2O4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Writing Formulas For Covalent Compounds:**

**Step 1**: Write each element’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Step 2:** Write \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to show the number of atoms as indicated by the \_\_\_\_\_\_\_\_\_\_\_\_

*Example:* dichlorine monoxide 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| *Try some examples:* |  |
| disulphur decafluoride 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | phosphorus tribromide 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| sulphur dioxide 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | arsenic pentachloride 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

* ***Some Exceptions***

There is often a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** usedinstead of the prefix system for many covalent molecules.

* + If there are more than **\_\_\_\_\_\_\_\_\_\_** different elements
    - *Example: CH3CH2OH is called “ethanol”*
    - *Example: C12H22O11 is called “sucrose” (it’s a sugar)*
    - *Example: C6H12O6 can be fructose or glucose – both simple sugars! They differ in their molecular structure!*
  + If it starts with **\_\_\_\_\_\_\_\_\_**
    - *Example: H2O is called “water”*